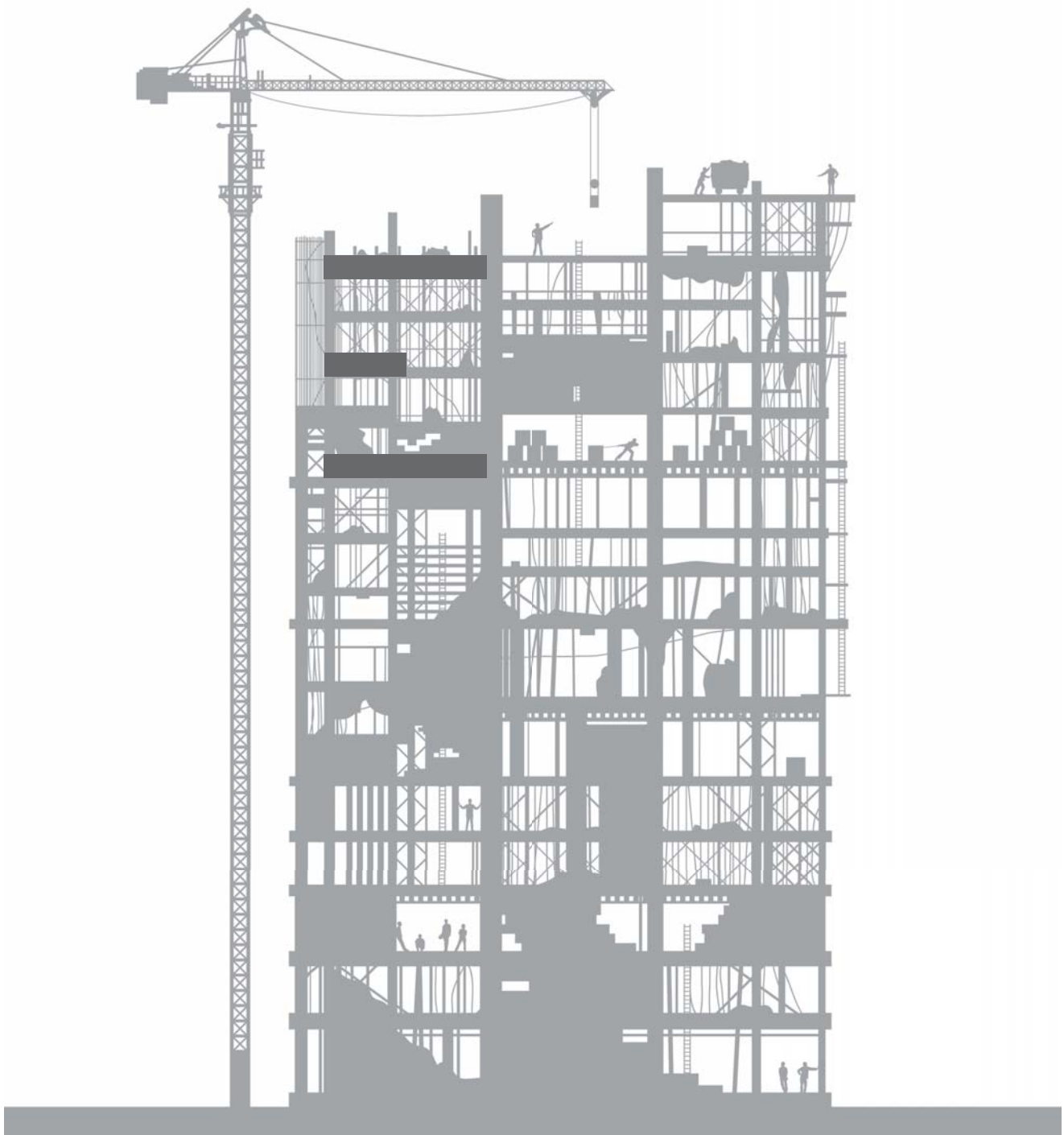


LUCIDEON

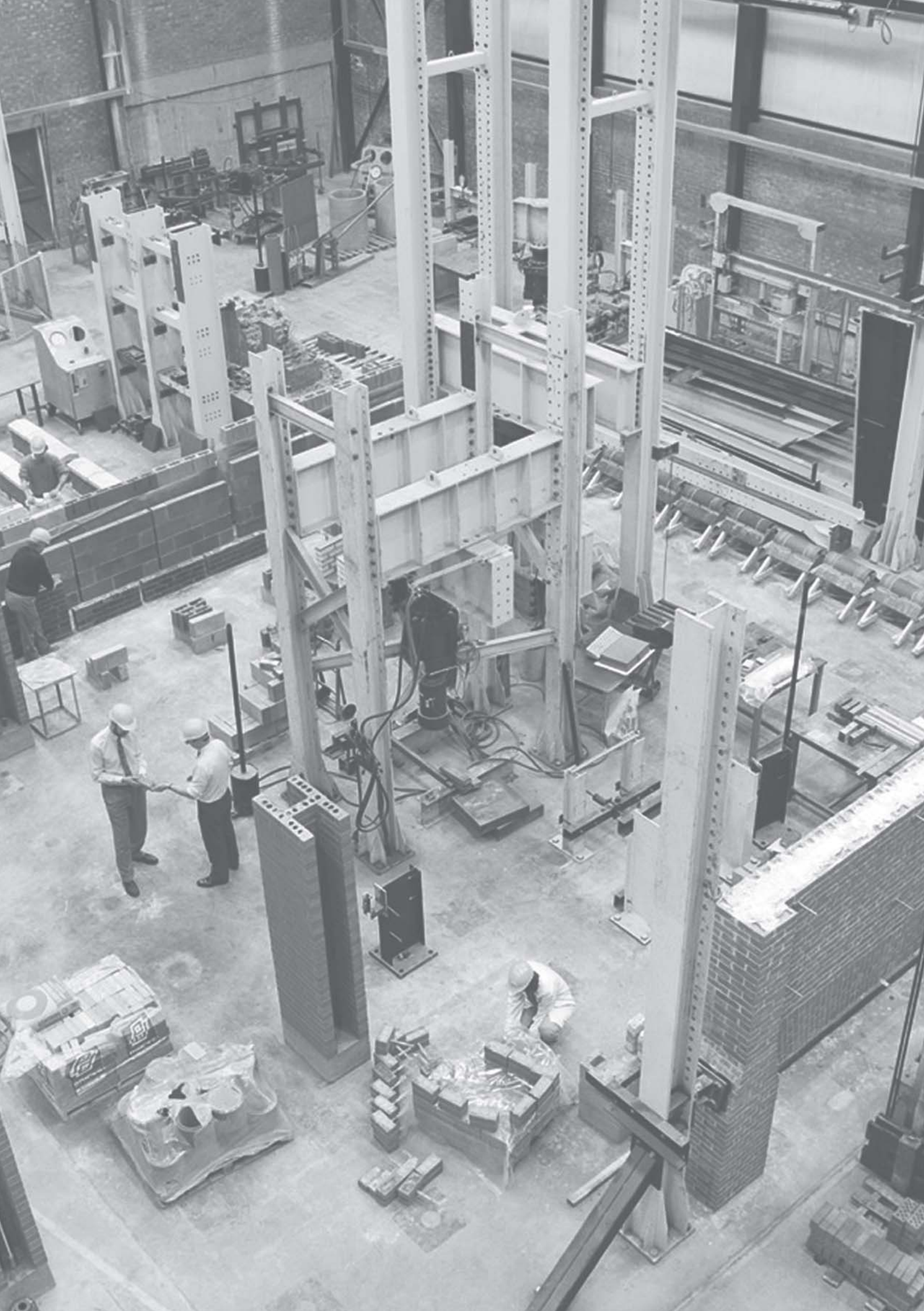
insight creating advantage

MATERIALS DEVELOPMENT, TESTING, CONSULTANCY AND ASSURANCE

FOR THE CONSTRUCTION INDUSTRY



www.lucideon.com/construction



WELCOME TO LUCIDEON

At Lucideon, our extensive and diverse knowledge of raw materials, building products, components, systems and structures is unique, making us ideally placed to provide laboratory and on-site testing and consultancy to clients in the construction industry – raw material producers, manufacturers of construction/building products, civil and structural engineers, designers, contractors, consultants, building managers, architects and end-users.

Our expertise enables us to help you to improve performance, solve problems, comply with regulations and meet specifications, realise products and projects from conception through to completion, develop novel products and processes, and improve existing ones.

Lucideon is a leading international provider of materials development, testing, consultancy and assurance. Our engineers, scientists, technical consultants and state-of-the-art laboratories are based around the world.

WE WORK WITH A VAST ARRAY OF MATERIALS, INCLUDING:



MASONRY



CONCRETE



STEEL



TIMBER



GLASS



PLASTICS



COMPOSITES



STONE

OUR VERSATILE PURPOSE-BUILT TESTING FACILITIES INCLUDE:

- A large-scale laboratory
- A 300 anchorage strong-floor, each anchor having a 100 tonne capacity
- A lifting capability with 11m clearance
- Loading rigs with a 1,000 tonne capacity
- Hygrothermal testing - capacity for 8 walls
- Dynamic wind load testing to CWCT standards

INFRASTRUCTURE



We work with contractors and consultants on major projects in the rail, road and water sectors: material and structural investigations to aid design, the development of design guidance based on testing, condition surveys, redevelopment and maintenance consultancy and structural upgrades.

OUR PROJECTS INCLUDE:

- Material and structural investigation of Waterloo Station mainline viaduct to confirm strength and stiffness in order to accommodate the tunnelling project beneath the foundations for the extended Jubilee Line
- Use of the half-cell method to investigate the corrosion of concrete rebars on motorway bridges
- The improvement of retrofit systems for bridge parapet safety through reinforced and pre-stressed masonry research
- Publication of a Design Guide to aid cost savings on major civil schemes
- Determination of bedding factors for buried drainage and sewage pipes
- Covermeter surveys

HOUSING

Thanks to our materials and building products expertise in the housing sector, we provide support for the development of Building Regulations and Code of Practice guidance.

With these capabilities, we are able to evaluate and verify performance characteristics and identify the cause and implications of product failures in service.

WE OFFER MANUFACTURERS, CONTRACTORS AND CONSULTANTS:

- Full-scale testing and assessment for new product and system development or improvement - to meet the requirements of certification bodies or insurer standards for market introduction
- Testing of external wall insulation (EWI) for refurbishment projects
- Compositional analysis of raw materials and products to verify specification compliance
- Failure analysis and development of remedial actions
- Testing of structural elements to support CE marking



COMMERCIAL BUILDINGS

From the design and origination stages of new commercial buildings, to the investigation and evaluation of issues relating to existing buildings, at Lucideon we provide services to meet all of your commercial building requirements. We offer a range of both standard and bespoke tests including: performance, structural, system,

durability, raised access floor, weatherability, wind load resistance and design support procedures outside recognised codes of practice. We also provide analysis and consultancy for the development of new design procedures, installation issues and failure analysis.



OUR EXPERIENCE WITH COMMERCIAL BUILDINGS INCLUDES:

- The development of a design procedure for the blockwork of the London 2012 Aquatics Centre
- Structural testing of the glazing for No.1 St. Mary Axe (The Gherkin), London
- Establishing the design strength of stonework for Portcullis House, Westminster
- Durability testing of the architectural features at Selfridges, Bullring, Birmingham
- Investigating the performance of raised access floors installed at BT, Brentwood, and SAGA headquarters, Folkestone

OFF-SITE CONSTRUCTION

At Lucideon we can evaluate all off-site construction systems, from Structurally Insulated Panel Systems (SIPS) to complex framing systems for cladding panels with hidden fixings. We can help you to achieve certification and ensure systems provide adequate structural performance,

weatherability and comfort throughout the system lifecycle. In our unique structural laboratory, we conduct the following testing: rain penetration, environmental, weatherability, material performance, structural performance and load.

EXAMPLES OF RECENT SYSTEMS TESTING:

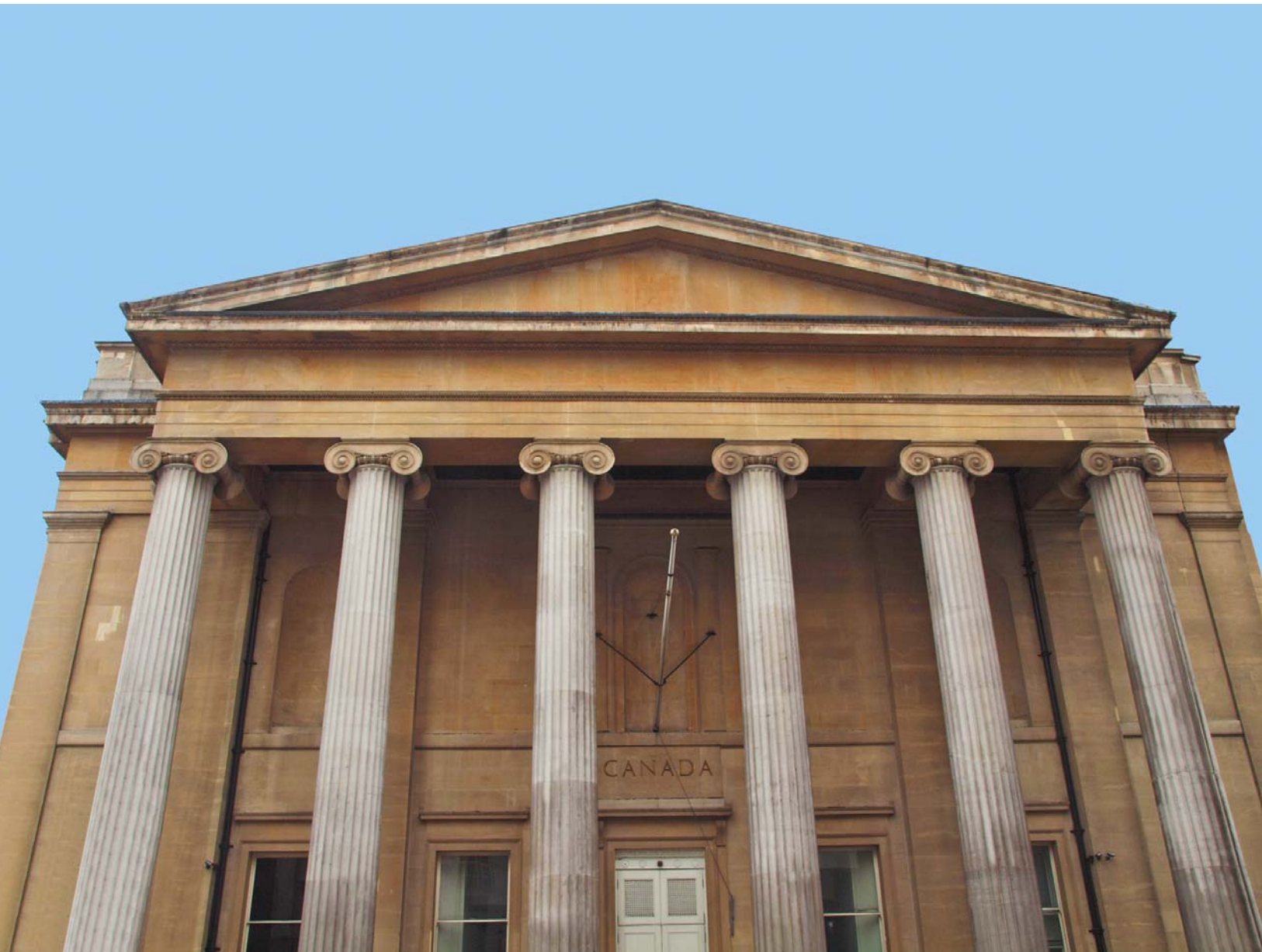
- Racking strength of SIPS
- Load testing of prefabricated roofing cassettes
- Simulated wind loading of external cladding systems
- Long-term performance of adhesives for finishes to prefabricated walling
- Suitability of timber flooring for finishing with cementitious screeds
- Rain penetration of prefabricated walling systems
- Artificial weathering of prefabricated systems - heat, rain and frost



REFURBISHMENT, RENOVATION & RE-FIT

Utilising existing buildings and structures lowers the impact of embodied energy, design input and land required; refurbishment, renovation and re-fit is therefore both sustainable and necessary. We help to extend the life of existing structures by evaluating: change of use, compliance with

modern building regulations and the effects of deterioration. Our extensive materials knowledge enables us to: conduct on-site sampling and testing, make structural calculations, evaluate repair techniques and provide bespoke solutions beyond code guidance.



PROJECTS INCLUDE:

- Durability of building materials in the renovation of the Round Foundry, Leeds
- Load testing of timber floors at the Royal Historic Dockyards, Chatham
- Load testing of historic concrete gallery floors at the Kelvingrove Art Gallery and Museum, Glasgow
- Design by testing at Winterton House, London
- Evaluation of repair techniques at Great Ormond Street Hospital, London
- Assessment of fire-damaged structures at Ashton-under-Lyne Market and the Civic Buildings, Neath

MATERIALS & COMPONENTS

We are able to support manufacturers and specifiers through the testing of new materials and products to: improve performance, reduce manufacturing costs, lower carbon footprinting and utilise alternative materials or wastes. Our considerable experience as a notified and accredited laboratory and our involvement in the

development of national and international standards enable us to formulate programmes and design appropriate testing regimes to help you produce new and improved materials and products which comply with the necessary standards and certification.




SERVICES INCLUDE:

- Carbon footprinting of building materials
- Surveys on the use of materials from alternative and recycled sources
- Testing for independent certification of novel products
- Testing of lining systems for landfill sites under high hydrostatic pressure
- Raw materials evaluation for clay-based products
- Forensic failure investigations
- Testing of PFA for subsequent use as a cement replacement
- Drying and firing trials
- Structural testing of timber to timber, and timber to masonry connectors

AT LUCIDEON WE CAN...

MEASURE


BEND



HEAT

— FREEZE°


STRETCH


SQUEEZE

...CONSTRUCTION MATERIALS,
COMPONENTS,
SYSTEMS AND STRUCTURES
TO HELP YOU DEVELOP, INNOVATE
AND COMMERCIALISE.

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